

REMARKS

Applicants' attorney is appreciative of the interview granted by the Examiner on November 7, 2007. At that interview, the following was agreed upon:

- 1) The Examiner accepted evidence that a proper Information Disclosure Statement was filed on December 10, 2004, and agreed to review the references filed on that date;
- 2) The Examiner accepted Applicants' claim to priority through the filing under 35 USC 371; and
- 3) Applicants' attorney agreed to amend claim 17 to clarify that it is the support that is treated to generate internal strains therein.

Claims 17-24 have been rejected under 35 USC 102(b) as anticipated by Romanov et al, and claims 25-27 have been rejected under 35 USC 103(a) over Romanov et al in view of Pechenik.

According to the invention, a thin layer is formed on a nanostructured support, and the thin layer is then treated to generate strains therein, causing deformation of the support at least in the plane of the thin layer, so as to ensure a corresponding deformation of the thin layer and modification of properties of the thin layer.

The Office Action takes the position that claim 17 can be read "either way," to permit treatment of either the thin layer or the support.

Applicants believe that claim 1 as filed, and claim 17 as added to the application, both clearly recite that it is the support that is treated to generate strains; Applicants' arguments made in the Amendment filed on January 31, 2007 took this position. The term "with the thin layer" in claim 17 as filed was used to indicate that the thin layer had already been deposited at the time the support was treated to generate the strains.

Nevertheless, claim 17 has now been amended to remove the phrase "with the thin layer," to eliminate any potential confusion. In order to designate that the thin layer has already been deposited at the time of the second step, the term "subsequently" has been added to the end of the first step.

Support for the claim language can be found, for example, in paragraph [0053] of the published application:

"The process according to the invention then aims at treating the nanostructured support 2 to generate internal strains in the support, causing its deformation at least in the plane of the thin layer 1 so as to modify its properties. The nanostructured support 2 is treated so as to change its volume, that is, to dilate it or to contract it such that the thin layer 1 subjects the interface between the nanostructured support 2 and the thin layer 1 to the same deformation as the nanostructured support 2. The thin layer 1 is then in tension or compression."

Also, see paragraph [0061]:

"As is evident more precisely from FIG. 2c, the support 2 is subjected to treatment, for example chemical, such as oxidation, hydrogenation or the like, allowing the state of strain in the nanostructured support 2 to be strongly modified, causing dilation or contraction of its nanostructure. This dilation or contraction of the nanostructured support 2 causes corresponding dilation or contraction of the thin layer 1 at the interface with the nanostructured support 2."

Based on the cited paragraphs, it is clear that the purpose of the invention is to treat *the substrate* to cause deformation after the thin layer has been deposited.

Romanov et al teaches a technique in which:

- two porous layers are formed on a substrate, the

surface layer presenting low porosity while the layer which is inserted between the surface layer and the substrate exhibits increased porosity;

- a fine Si layer is formed on the upper porous layer, and
- epitaxial growth is produced in conflict with lattice of a layer of Si-Ge on the fine layer of Si.

An effect of compliance or deformation is obtained by producing epitaxial growth of a layer of Si-Ge. More precisely, the strain energy is intended to be relaxed elastically by the upper porous layer.

The *thin layer* described by Romanov et al provides strains in the support while the claimed invention generates internal strains in the support causing the deformation of the thin layer.

It is clear that Romanov et al does not teach or suggest causing a deformation of the substrate before of effecting the epitaxial growth of a Si-Ge layer, and does not teach or suggest applying a treatment to the support to generate internal strains in the support, causing the deformation of the thin layer. It is undeniable that the epitaxial growth of a crystalline material, as taught by Romanov et al, does not generate internal strains in the support.

Thus, Romanov et al teaches forming in lattice conflict, an epitaxial layer on the surface of a support. The strain energy provided by the epitaxial layer formed in lattice conflict on the support is absorbed by the support and more precisely by the porous layer. On the contrary, the process according to the invention uses a dilatation or contraction effect on the support, to ensure a corresponding deformation of the thin layer previously formed on the support.

Withdrawal of these rejections is requested.

In view of the foregoing amendments and remarks,

Applicants submit that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Ira J. Schultz". The signature is written in a cursive, slightly stylized font.

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